SOUTHEAST KANSAS
REGIONAL TRAUMA SYSTEM PLAN

Southeast Kansas Regional Trauma Council

Prepared by SEKRTC Executive Committee
Chris Way, Chairperson

SOUTHEAST KANSAS REGIONAL TRAUMA SYSTEM PLAN
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May 30th, 2002
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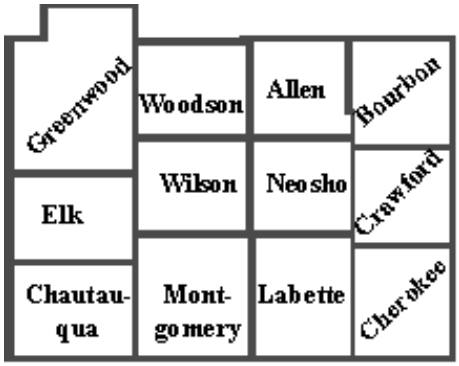
Southeast Kansas Regional Trauma System Plan

Introduction



Southeast Trauma Region

The 12 counties of the Southeast (SE) region cover 7,741 square miles with an approximate total population of 196,108. There are 15 facilities that offer emergency care in the region with 966-staffed beds.

For a complete listing of counties in the Southeast Trauma Region, see Appendix A.

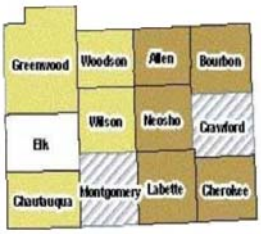
Population/Sq Miles – U.S. Census Bureua-2000 Census
Hospital – Kansas Hospital Association, 2004 Annual Stat Report

In Kansas, 75 percent of the population resides in 10 of 105 counties leaving most counties designated as rural or frontier. Seven percent of the Kansas population resides in the 12 counties of the region, none are classified as urban, two are classified as semi-urban, five are classified as densely settled rural, two are classified as rural and one is considered a frontier county None of the 12 counties have populations over 100,000 or 50,000, four counties have 20,000-50,000, five have 5,000-20,000, and three have a population less than 5000. (Kansas Department of Health and Environment population density groupings based on the 2000 Census).

Southeast Region by Population Density

Seven percent of the Kansas population resides in the SE region, no county is classified as urban, two are classified as semi-urban, five are classified as densely settled rural, four are classified as rural and one is considered frontier.

Source: Kansas Department of Health and Environment population density groupings based on the 2000 Census.



Population Density	Rural / Urban Peer Group
Fewer than 6.0 persons per square mile	Frontier
6.0 - 19.9 persons per square mile	Rural
20.0 - 49.9 persons per square mile	Densely-Settled Rural
50.0 - 149.9 persons per square mile	Semi-Urban
150.0 persons or greater per square mile	Urban

Background

The Southeast Kansas Regional Trauma Council (SEKRTC) is composed of over 69 individuals representing more than 37 organizations. A list of member organizations is located in Appendix B. The general membership meets on a bi-annual basis. The executive committee meets at least quarterly. Five subcommittees: education, trauma triage, transport/transfer, EMD, regional trauma plan and bylaws meet on an ongoing basis.

SEKRTC started work on the regional trauma plan in May 2002. SEKRTC subcommittees are primarily responsible for developing and monitoring the regional trauma plan. The executive committee provides plan oversight.

Kansas has three voluntary American College of Surgeons (ACS) verified Level I Trauma Centers including the University of Kansas Hospital, (Kansas City, Wyandotte County), Via Christi at St. Francis (Wichita, Sedgwick County) and Wesley Medical Center (Wichita, Sedgwick County). The SE region does not have an ACS verified trauma center. The SE region borders northeast Oklahoma and southwest Missouri. Although regional data is needed to determine trauma patient destination, many critically ill trauma patients are transported outside the region and to neighboring states.

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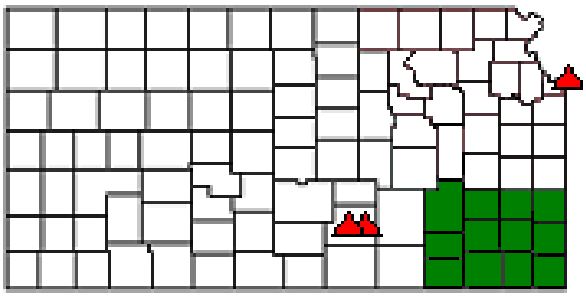

ACS Verified Level I Trauma Centers

There are three voluntary ACS verified Level I Trauma Centers in Kansas. One is located in the NE trauma region, two others are located in the SC region.

Source: American College of Surgeons Trauma Programs: Verified Trauma Centers. facs.org/trauma/verified.html

Resources

In addition to population diversity, the SE region is unique in diversity of facilities and resources. There are 214 Medical Doctors (MD) and 66 Doctors of Osteopathy (DO) in the SE region. Four counties have at least five MDs, of those four, two counties have only one MD, and one county does not have an MD. In the two counties with one MD, Chautauqua has one DO, four Physician Assistants (PA) and one Advanced Registered Nurse Practitioner (ARNP); Woodson has one DO. Elk does not have a MD or DO but has one PA, and two ARNPs. (Healthcare Data Governing Board, *Healthcare Professional Inventory, November 2003*).

The region has 15 facilities within the 12 counties. As the SEKRTC executive committee is notified of facilities seeking trauma center verification/designation, the facility will be reviewed by the executive committee and added to the plan as appropriate.

ACS Verified Trauma Centers: The region does not have verified ACS Level I, II, III, or IV trauma centers. Data is not currently available as to the intent of ACS verification and/or state designation of facilities in the region.

A. System Access

Emergency dispatchers are usually the beginning of emergency medical response and trauma system activation in Kansas. Emergency dispatchers provide First Responders and Emergency Medical Service (EMS) with essential information regarding location and nature of emergency calls. Effective communications among emergency responders is vital to patient care.

A. a) 9-1-1 or single access telephone number availability

In the SE region, telephone and 9-1-1 are the most frequent methods used by the public to access the emergency medical system and report emergency situations. All counties in the SE region have access to 9-1-1.

Enhanced 9-1-1

Enhanced 9-1-1 (E 9-1-1) provides the ability for emergency dispatch agencies to identify the caller's phone number and location. Currently the service is available for landline calls only, and provides address and phone numbers.

In 1996, the Federal Communications Commission (FCC) issued a Report and Order requiring all wireless carriers and cell phone manufacturers to provide the capability for automatically identifying to emergency dispatchers the location from which a wireless call is being made. This requirement was to be operational by October 1, 2000 with extension to this date continuing to be adopted for individual states and carriers.
(ftp.fcc.gov/Bureaus/Wireless/Orders/2000/da002336.html)

Standard 9-1-1 service usually reaches local or county agencies, but the Kansas Highway Patrol (KHP) advertises three numbers: 9-1-1, *HP (to reach the KHP directly) and *KTA (to reach the KHP for turnpike-related matters). Although 9-1-1 has been designated as the "official" number for reporting emergencies, it is by no means universal, either for wired or wireless phones. There are also many locations where 9-1-1 does not work for a wireless phone user because the wireless carrier has not enabled 9-1-1 in its routing equipment.

When dialing 9-1-1 from a wireless phone, the call might be routed to a local law enforcement agency, a county sheriff or to the state-level law enforcement agency. The call may also be routed to a communications agency outside the immediate location.

The SE region presently has 18 agencies that dispatch emergency services, including state, municipal and county law enforcement, and fire departments. In 2003, 13 of 16 (81%) dispatch agencies completed the 2003 Kansas Public Safety Communications Survey. Annually, the SE region received over 20,000 emergency calls. With the increased use of cellular telephones, dispatch agencies are receiving heavier call volumes from these users. Because E 9-1-1 is not a standard in Kansas, the dispatch agencies do not automatically receive the same level of information and dispatchers may not be able to collect information that would normally be visible through 9-1-1 service. This can dramatically increase response time and may negatively impact patient outcomes. Evidence suggests improved public access to 9-1-1 systems can improve outcomes for trauma patients. The Kansas Public Safety Communications Committee has been established and addresses related issues.

2003 Communications Survey
Dispatch, 9-1-1, E9-1-1, Wireless and GPS

	Numerator	Denominator	%
Total # Agencies		16	
Surveys Returned	13	16	81%
Dispatch Service Provided	11	11	100%
E9-1-1 Dispatch Capabilities – Yes	7	11	64%
Receive Wireless Emergency Calls - Yes	11	11	100%
GPS Capability - Yes	1	11	9%

Needs Analysis

- SEKRTC identified the need for dispatch agencies to expand systems to accept E 9-1-1 calls from phone companies and ensure phone companies deliver the calls once the dispatch agencies are able to receive calls. There is a need for regional Global Positioning System (GPS) capability.

Objectives

- Monitor E 9-1-1 use and implementation in the region.
- Support local and statewide efforts in the development and implementation of E 9-1-1 access.
- Support GPS increased capabilities including cellular, Voice over Internet Protocol (Voice over IP-a method for taking analog audio signals, turning them into digital data that can be transmitted over the internet) and Private Branch Exchange (PBX-a private telephone network used within businesses to reduce the need for connecting an external line to every telephone in a business).

Activities in Progress

- Other than state and federal ongoing requirements, no regional activities are in progress.

Planned Activities

- The statewide plan for E 9-1-1 will be supported.
- E 9-1-1 implementation will be monitored in the region related to trauma care issues and support will be provided to local organization.
- SEKRTC will support increased capabilities including cellular, Voice over IP, and PBX.

Long -Term Goals

- 100% of communications/dispatch agencies should upgrade technology to provide E 9-1-1.
- Telephone companies should provide service with GPS technology to communications/dispatch agencies.

A. b) Backup or emergency systems

The region has 18 dispatch/communications agencies. Most are operated by law enforcement agencies, and are required to have backup or emergency systems. Weapons of Mass Destruction and emergency preparedness planning committees address issues regarding communications agencies' backup and emergency systems.

All counties are mandated by the Kansas Department of Emergency Management (KDEM) to have mass casualty disaster plans developed by their County Emergency Management Departments. These disaster plans address such topics as EMS response, facility response and emergency communications resources. SEKRTC will encourage EMS Region VI to review their respective county's disaster plans to assure that the EMS portions of the plans are current and reflect EMS and trauma system operations in their county. County disaster plans should be

tested annually. Facilities also are required to have two disaster drills per year. These drills should include EMS agencies and communications agencies.
The region encourages every 9-1-1 and/or emergency communications system to have a backup plan or agreement in place should there be catastrophic failure in that system.

Needs Analysis

- SEKRTC does not currently have regional information regarding communications center backup and emergency systems.

Objectives

- Support development of backup plans being created by KDEM.
- Support community evacuation plans for emergency preparedness.
- The SE region supports use of the backup systems established by KDEM.

Activities in Progress

- Local emergency management personnel are developing community evacuation plans.

Planned Activities

- Development and implementation of backup plans will be encouraged.

Long-Term Goals

- All communications/dispatch centers will have backup plans in place.

A(c) First responder availability

The Kansas Board of Emergency Medical Services (KBEMS) certifies First Responders after completion of an approved First Responder training program. Agencies in Kansas, including law enforcement and fire department agencies may utilize non-certified first responder personnel. Certified EMS personnel information is available from KBEMS. SEKRTC recognizes the vital role of first responders. First responders are often first to arrive on scene, view the patient, and perform an initial patient assessment. They further impact the system with respect to triage and trauma alert because they have the ability to influence mode of transportation decisions.

Needs Analysis

- Through education and training SEKRTC will continue to support the idea of medical first response and include medical first response as an essential portion of the trauma plan.

Objectives

- Determine the number of fire departments and law enforcement agencies that require medical training.
- Support efforts to identify needs regarding interagency cooperation.
- Any person with the responsibility to respond and interface with the emergency medical system must do so with medical oversight.

Activities in Progress

- KBEMS monitors the activities of certified EMS personnel, but not the activities of non-certified first responders. It should be up to the region in cooperation with EMS Region VI to provide trauma triage, and treatment education in the region.
- Currently, Pre-Hospital Trauma Life Support (PHTLS) education is provided in the region.

Long-Term Goals

- Develop a list of first responder agencies requiring medical training and the level of medical training the agency requires.
- First responders should have emergency medical training.
- Any person or agency with the responsibility to respond and interface with the emergency medical system must do so with medical oversight.
- Develop a strategy to help collaborate with agencies based on their training needs.

Evaluation Plans and Results for Activities

- A list of agencies with first responders and medical training levels will be developed.

A(d) Public education regarding resources and accessing help

The public most commonly accesses the system through telephone and 9-1-1. In the SE region, public education regarding emergency system access is determined by individual agencies and organizations. With increased use of cellular technology accessing the emergency medical system through cellular technology has increased. For Additional information refer to A(a) Enhanced 9-1-1 pp. 3-4.

Needs Analysis

- There is a need to educate the public regarding the proper use and advantages of E 9-1-1.

Activities in Progress

- Local organizations implement public education at their discretion.

Planned Activities

- Support the community-based approach to public education.
- Support and encourage public education regarding the advantages of E 9-1-1.

Part B – Communications

Pre-hospital care in the SE Kansas Trauma System Plan includes prevention, EMS, first responders, dispatch and communications agencies. Pre-hospital care is a vital component of trauma systems; what happens in this setting often directly impacts both initial treatment and eventual outcome. The pre-hospital components of a trauma care system should provide easy access, prompt response by qualified professional responsible for assessment, stabilization, triage and transport to the most appropriate facility.

B(a) Communications/dispatch centers and level of resources

There are 18 dispatch and communications agencies in the SE region. Using data from the 2003 Kansas Public Safety Communications Survey and the 2005 SEKRTC EMD Training Survey, a description of the current system follows.

B(b) Communications constraints

Equipment

Radio is the primary method of communications for pre-hospital care providers in the SE region. The brand and age of radio equipment used in the region varies, which affects technology upgrades and interoperability. Based on the 12 agencies reporting the age of their communications systems in the 2003 Kansas Public Safety Communications Survey, approximately 25% of communications systems are 11 years or older. For many emergency services agencies in the region, technology upgrade costs to use an 800 MHz tower would be prohibitive.

Cellular telephones are a popular tool for EMS to facility communications; however, they are not always reliable due to remote locations, terrain and service coverage.

Manufacturer	System Age (in years)				
	0 - 5	6 - 10	11 - 15	16 - 20	More than 20
Motorola	3	5	2	0	1
EF Johnson	0	1	0	0	0
M/A - COM	0	0	0	0	0
Ericsson	0	0	0	0	0
Other	0	0	0	0	0

Dispatch Systems Type & Age

Seventy-five percent of dispatch systems used in the SE Region are 6 years or older with three agencies reporting equipment age as 10 years or older.

Source: 2003 Kansas Public Safety Communications Survey

Twelve of 13 responded to this question.

Distance

The 2003 Kansas Public Safety Communications Survey revealed a majority of the responding agencies, 90.9% responds to calls covering 1,000 square miles or less. Over 85% of agencies (11/13 responding to the question) reported providing 24-hour dispatch services.

Square Miles Covered	# Agencies	% Agencies
Less than 500	0	0.0%
501-1,000	10	90.9%
1,001-5,000	0	0.0%
5,001-10,000	0	0.0%
10,001 or more	1	9.1%

Dispatch Agencies and Square Miles Covered

Of the SE regional Dispatch and Communications Centers, 90.9% respond to calls covering 1,000 square miles or less.

Source: 2003 Kansas Public Safety Communications Survey

Eleven of 13 responded to this question.

Population

Of the 12 counties within the SE region, none have a population of 100,000 or more. Three counties have a population of 2,500-5,000, one county has a population of 5,001-10,000, and eight counties have a population of 10,001-100,000. Elk county has less than six persons per square mile making them "frontier" according to the Kansas Department of Health and Environment: Office of Rural Health *Primary Care health Professional Underserved Areas Report, Kansas 2004.*

Population Served	#Counties	% Counties
Less than 2, 500	0	00.0%
2,500-5,000	3	25.0%
5,001-10,000	1	08.0%
10,001-100,000	8	66.6%
100,001 or more	0	00.0%

Population Served

Sixty-six percent of the SE region has a population over 10,000. At least 7% of Kansans live in the SE region.

Source: 2000 Census, Kansas County Population

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Terrain

Due to the rural nature of the state, cellular telephone coverage is not 100% statewide. Not only do large gaps of cellular service exist in geographically isolated areas, gaps exist along the heavily populated interstate transportation system.

Cellular telephones

Cellular telephones present another method for accessing the emergency medical system. The Wireless E 9-1-1 Act was passed during the 2003 Kansas legislative session. The legislation is designed to allow 9-1-1 centers to track where a citizen is calling from on their wireless telephone and it created a funding mechanism to expand wireless 9-1-1 services throughout the State.

Inter-Agency Communications

According to the 2003 Kansas Public Safety Communications Survey, 100% (11 of 11 responding to the questions) of the agencies reported law enforcement, EMS, and fire departments were unable to communicate on one radio channel or talk group. Six agencies reported an operational concern with radio communications between agencies in the region, as well as those in a bordering state.

Needs Analysis

The SEKRTC identified equipment interoperability and communications between providers as a major issue effecting trauma patient care. The inability to communicate effects the amount of time required to respond to the scene increasing the amount of time between the initial call from dispatch to initial patient assessment, triage, stabilization and transport to the most appropriate facility. Funding for grass roots technical support and equipment for implementation of a region wide communications system is needed. The SE region is unable to purchase 800mhz radio equipment compatible with existing towers.

Objectives

- Support the development, implementation, and funding of a statewide communications system.
- Support and monitor the state interoperability plan as it relates to trauma care.
- Coordinate with the South Central Kansas Hospital Preparedness Region.

Activities in Progress

- No activities at this time.

Planned Activities

- Support implementation of a statewide communications system as it relates to trauma care.

- The South Central Kansas Hospital Preparedness representative will be invited to attend executive committee and other regional meetings.
- Support the development of data communications systems, i.e. EMSystem® and Web EOC®.

B (c) Contact information for each center including radio frequencies
See Appendix C.

B (d) Training for area communications personnel
In May 2005, SEKRTC conducted a survey of the 18 dispatch agencies in the region to determine training needs. Overall, the survey revealed several different emergency medical dispatch (EMD) training programs are in use and some agencies do not use an EMD training program at all.

- Sixteen agencies dispatch EMS.
- Eight agencies use an EMD training program to train dispatchers.
- Ten agencies do not use an EMD training program.
- Six agencies employed Medical Priorities Dispatch of the National Academies of Emergency Dispatch (NAED). One center uses Association of Public-Safety Communications Officials (APCO) and one uses NCI USA.

Both the 2003 Kansas Public Safety Communications Survey and the 2005 SEKRTC EMD Training Survey identified many agencies cite liability concerns as a primary reason they do not pursue EMD training. In addition, overall costs of training; including staff time out of office and travel, prohibitive course expenses and high volumes of dispatcher attrition were reasons EMD training has not been pursued. Most dispatch services are provided by law enforcement, where higher volumes of law enforcement related calls as compared to EMS related calls make EMD training a low priority.

Needs Analysis

- Dispatch agencies have difficulty hiring and retaining employees. Low pay, long hours, weekends, night shifts, and mandatory overtime are responsible for employee burnout and large turnover within dispatch agencies. Part-time shifts, shift trading, higher pay, and better benefits could attract more trainees and help to keep experienced call takers and dispatchers from resigning. The Association of Public-Safety Communications Officials (APCO) is working on providing a staffing standard for communications agencies. The project is named RETAINS (Responsive Efforts to Assure Integral Needs in Staffing).

Objectives

- Collaborate with the South Central Kansas Trauma Region (SCKTR) and the Southwest Kansas Regional Trauma Council (SWKRTC) to address EMD issues.
- Train one additional Medical Priorities instructor for the Southern regions for trauma (SWKRTC, SCKTR, and SEKRTC).
- Maintain a minimum of two Medical Priorities instructor for the southern regions for trauma.
- Provide one Medical Priorities/EMD training course per trauma region.
- Provide ongoing re-certification training as needed.
- Purchase Medical Priorities Card Sets for participating agencies.
- Implement and follow the Medical Priorities EMD Continuous Quality Improvement model.

Activities in Progress

- The pre-hospital/communications subcommittee and EMD subcommittee have developed and are in the process of implementing a plan for EMD education in the region in conjunction with SWKRTC and SCKTR.
- Several dispatch agencies in the southern regions indicated they were interested in receiving EMD training for their staff. Training for departments is under evaluation.

- Selection for the Medical Priorities Instructor has been completed and training is in progress.
- The EMD subcommittee meets on a regular basis.

Long-Term Goals

- Regional standardization of the medical dispatch system.
- Educate the communications agencies as to the importance of EMD.
- Regional EMD training will be provided to interested agencies.
- Secure funding to maintain trained EMD instructors.

Evaluation Plans and Results for Activities

- SEKRTC EMD plan will be completed by December 2007.

B (e) Response & Scene Times

Currently, the number of agencies with set standards for response and scene times is not known. Protocols are the responsibility of each service or organization in the SE region. The Medical Priorities CQI guidelines recommend call information from communications and dispatch agencies is conveyed to units within two minutes of call receipt.

Needs Analysis

- Regional response and scene times need to be determined, collected and evaluated. A standardized mechanism for collecting regional data on response and scene times has not been developed or implemented. A regional standard has not been established regarding response and scene times. However, a standardized accepted scene time needs to be established in the SE region.

Objectives

- Encourage the Kansas Trauma Registry subcommittee to include response and scene times as a required data element for future monitoring and measurement activities.
- Dispatch agencies will convey trauma patient information to units within two minutes of call receipt.
- Trauma system patients will receive pre-hospital emergency care within the following defined parameters 75% of the time (unless there are extenuating circumstances).
  - Response Times
    - Urban – 10 minutes or less
    - Suburban – 12 minutes or less
    - Rural – 30 minutes or less
    - Interfacility transfer of patients is completed in a timely fashion - 6 hours
    - Time to definitive care from first facility – 6 hours

    (See "Committee on Trauma (1999), *Resources for Optimal Care of the Injured Patient: 1999*, American College of Surgeons, Chicago"
- SEKRTC EMD subcommittee will develop a reporting structure from the communications center to SEKRTC regarding the time between call received to actual unit dispatch time.

Activities in Progress

- SEKRTC EMD project (Medical Priorities).

Planned Activities

- The executive committee will approach the Kansas Trauma Registry subcommittee about collecting data to determine response and scene times. If approved, monitor and evaluate trauma registry response and scene time data.
- EMD agencies will be educated about the Medical Priorities response time goal.
- Standardized response and scene times will be encouraged for urban, suburban and rural areas and ambulance services will be educated regarding the standard.

Long-Term Goals

- The Kansas Trauma Registry will collect response and scene times.
- Kansas Trauma Registry data will be provided to the region for analysis and trending.
- Implementation of performance improvement (PI) review.

Evaluation Plans and Results for Activities

- SEKRTC will have the ability to monitor and evaluate response and scene times on a regional scale.
- Benchmarks for response and scene times will be established.
- After development, the region will follow standards for response and scene times.
- Patient outcomes will improve with standardized response and scene times.

B (f) Communications for multi-agency scenes

With the exception of air transport providers, there is no standardized system that allows for communications at multi-agency scenes.

The Major Emergency Response Group (MERGe) is a system of preparation, response, and recovery for major emergency medical events affecting licensed ambulance services for disaster management within Kansas. The group is comprised of EMS leaders who know the importance of an organized response system and provide experience, leadership and expertise. MERGe provides incident command staffing, which includes planning, operations, finance and logistics and resource coordination. MERGe is activated for disasters, mass casualty incidents, overwhelmed EMS systems, and other major events. Currently, funding has been provided to form and support regional medical response teams.

Needs Analysis

- For needs analysis, refer to (B)b Communications Constraints pp. 7-9.

Objectives

- Support and monitor the state interoperability plan for issues effecting trauma patient care.
- Support the MERGe concept in the region.

Activities in Progress

- Support implementation of a statewide communications system.

Planned Activities

- Support MERGe activities.

Part C - Field Triage Guidelines

Trauma triage protocols are the responsibility of each organization in the region and are developed in conjunction with the local medical adviser within each county. The regional trauma council has access to very few local protocols despite efforts to obtain those currently in use. EMSystem® was implemented in the SE region in 2004. EMSystem® is a web-based system that provides current information regarding facility diversion and resource status.

C(a) Field Triage Guidelines

Regional data from the trauma registry will be used when available to determine current patient flow patterns.

SEKRTC developed triage guidelines based on ACS Committee on Trauma criteria. See Appendix D.

(a)1 Classification of patients by severity (physiological, anatomical, mechanism, co-morbid factors etc.

See SEKRTC Field Triage Protocol in Appendix D

(a)2 Acknowledgment of level of pre-hospital care provider available (including air medical transport)

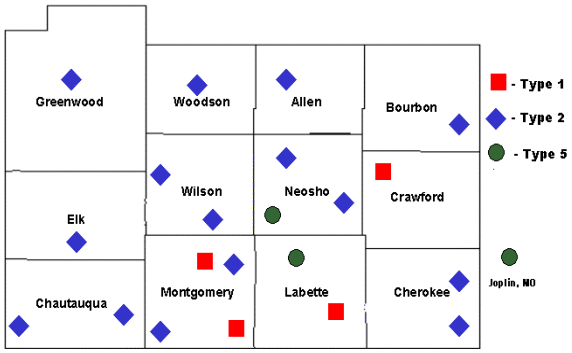
(a)3 Trauma team notification/activation

See SEKRTC Field Triage Protocol in Appendix D.

KBEMS certifies ambulance services in Kansas and provides licensing for three types of services:

- Type I - provides Advanced Life Support (ALS).
- Type II - provides Basic Life Support (BLS), or BLS with ALS services based on availability.
- Type V - provides critical care transport ambulance with a driver or pilot and at least two medically trained persons, one of whom shall be a physician or a licensed professional nurse. At least one of the medical personnel on each type V ambulance shall have completed and be current in Advanced Cardiac Life support (ACLS). When performing neonatal or pediatric missions, at least one of the medical personnel on each type V ambulance shall have completed and be current in Pediatric Advanced Life Support (PALS). Other requirements include: Advanced Trauma Life Support (ATLS), Flight Nurse Advanced Trauma Course (FNATC), Trauma Nurse Core Course (TNCC), Pre-Hospital Trauma Life Support (PHTLS), or an equivalent course as approved by the board. KBEMS 109-2-6/7 May 20, 2005 www.ksbems.org/allregulation

In the SE region, there are 19 EMS services, four Type I services, 15 Type II services and of the type II many may provide ALS services based on availability. Type V services are available in Parsons and Chanute in the SE region and Joplin, Missouri.



EMS Service Location & Type

There are19 EMS services in the SE region. This map shows the Licensure Type by county (identifiers do not indicate exact location of the service within the county).

Source: Kansas Board of Emergency Medical Services, January 2005 and SEKRTC Executive Committee May 2005

Six levels of certification are available for pre-hospital personnel in Kansas, including:

- First Responder (FR),
- Emergency Medical Technician (EMT),
- Emergency Medical Technician-Intermediate (EMT-I),
- Emergency Medical Technician-Defibrillator (EMT-D),
- Emergency Medical Technician I-D (EMT I-D – holds both the Intermediate and Defibrillator levels) and
- Mobile Intensive Care Technician (MICT-Paramedic).

EMS Personnel by Certification Type

	FR	EMT	EMT-I	EMT-D	EMT I-D	MICT	Total
Total	91	330	87	3	32	115	658

Source: Kansas Board of Emergency Medical Services, March 2005

Two air ambulance companies provide services for the SE region. The services are licensed and regulated by the KBEMS. Trauma protocols are the responsibility of each air ambulance service.

Needs Analysis

- SEKRTC has limited information regarding the current trauma triage protocols in the region. Standardized triage and trauma alert guidelines have not been implemented in the region and the need exists for all providers of trauma care to communicate the same language regarding trauma patients. Regional data from the trauma registry is needed to determine current patient flow patterns. There may need to be an identification system in place to help determine patient flow.

Objectives

- Educate all pre-hospital agencies and facilities to use SEKRTC field triage guidelines, which are based on ACS guidelines.
- Monitor implementation of SEKRTC field triage guidelines.
- Continuously evaluate and improve SEKRTC field triage guidelines based on feedback from pre-hospital agencies and facilities.
- SEKRTC will request valid and accurate Kansas Trauma Registry data to establish a patient flow baseline.

Activities in Progress

- SEKRTC has developed a model field triage protocol for recommendation to pre-hospital agencies and facilities in the region. (See appendix D.)

- The Glasgow Coma Score educational video will be provided to EMS and facilities throughout SEKRTC.

Planned Activities
- Education regarding use of SEKRTC field triage guidelines will be provided to pre-hospital agencies and facilities.
- SEKRTC will support and encourage designation and/or verification of all facilities throughout the region.

Short-Term Goals
- Educate pre-hospital agencies and facilities on SEKRTC field triage guidelines and encourage their implementation.

Long-Term Goals
- Include all facilities in the state designation system process.
- Encourage active use of SEKRTC field triage guidelines for pre-hospital and facilities.
- All pre-hospital agencies and facilities will implement SEKRTC field triage guidelines for trauma patients.

Evaluation Plans and Results for Activities
- The Kansas Trauma Registry data will be used to determine patient flow.
- Increased use of SEKRTC field triage guidelines will be observed.

C(b) Diversion Policies

Diversion policies are the responsibility of local organizations. Currently, SEKRTC does not have sufficient regional data to provide evaluation, make statements about, or provide plans and recommendations on diversion policy issues.

Diversion policies are the responsibility of local organizations. Kansas law 75-5668, does not limit the patient's right to choose the facility of their choice.

Needs Analysis
- Regional data on diversion is not available to accurately evaluate the current system.

Objectives
- All facilities in the SE trauma region will participate in EMSystem®.
- EMSystem® will be used to establish a regional baseline to evaluate diversion.
- SEKRTC will support the Kansas Trauma Program trauma center designation system.

Activities in Progress
- To be determined when data becomes available.

Planned Activities
- SEKRTC will request EMSystem® reports from the Kansas Hospital Association (KHA) to determine diversion episodes.
- SEKRTC will work with facilities to review the Advisory Committee on Trauma's (ACT) proposed trauma center designation criteria and obtain regional feedback.

Long-Term Goals
- The region will develop and implement a coordinated approach for diversion.
- The region will determine facility trauma care resources.

C(c) Resource Utilization Protocols

Resource utilization protocols have not been addressed. The Kansas Trauma Program does not have a plan implemented for designation of trauma centers. ACS Committee on Trauma

currently verifies trauma centers based on the depth of resources available for care of the critically injured patient.

In the SE region, patients are transported and transferred to facilities according to local protocol. Written transfer agreements occur at the discretion of individual facilities and the SE region does not have copies of transfer agreements. Bypass of local facilities has not been addressed by SEKRTC. However, SEKRTC field triage guidelines provide an initial foundation. The lack of accurate and timely regional data affects the region's ability to address bypass issues. Kansas Trauma Registry data will be necessary to establish a regional bypass baseline, allowing the ability to base system improvements on accurate data. Another issue affecting bypass issues is the lack of policy for trauma center verification/designation. The Kansas Trauma Program is presently defining the process to designate trauma centers in order to determine patient destination. SEKRTC distributed to the general members, the "Committee on Trauma (1999), *Resources for Optimal Care of the Injured Patient: 1999*, American College of Surgeons, Chicago" to build awareness of trauma criteria.

(c)1 Acknowledgement of regional resources (EMS and hospital) and geographic make-up and why bypass of local facilities may be appropriate.
SEKRTC acknowledges that bypass protocols may be appropriate.

(c)2 Instances when nearest facility should not be bypassed
SEKRTC recommends facilities not be bypassed when the following complications exist:

- Patient(s) with Airway Compromise,
- Patient(s) in Cardiac Arrest or Impending Arrest,
- Severe Weather Conditions and
- Consider pediatric patients with suspected severe hemorrhage and no IV line established.

Needs Analysis

- Regional data is needed to establish a baseline for facility bypass.

Objectives

- SEKRTC will support the Kansas Trauma Registry in providing accurate and timely data.
- SEKRTC will support the efforts of the Kansas Trauma Program in establishing clear guidelines for designation of trauma centers.
- Analyze SEKRTC Trauma Capabilities Assessment data.
- Obtain data from EMSystem® on diversion episodes.
- Establish a model bypass protocol and encourage its use.
- Every effort should be made to ensure the patient is transported, to the most appropriate facility the first time

Activities in Progress

- SEKRTC volunteers support to the Kansas Trauma Registry. KDHE will continue to provide technical support to facilities to aid with Kansas Trauma Registry data quality and completeness.

Planned Activities

- Continue to support the Kansas Trauma Registry and trauma center designation.
- Determine needs and develop goals based on SEKRTC Trauma Capabilities Assessment data.

Long-Term Goals

- As more accurate and timely Kansas Trauma Registry data is provided, more aggressive and specific plans will be developed.
- A bypass protocol should be developed to provide the trauma patient with care at the most appropriate medical facility by the most appropriate means of transportation.

- The region will determine facility trauma care resources.

C(d) Facility Response Criteria

Each facility is responsible for developing facility response protocols. Regional data from the Kansas Trauma Registry will be used to analyze current issues and trends with respect to facility response.

(d)1 Classification of patients by severity (physiological, mechanism, co-morbid factors, etc)

SEKRTC will follow "Committee on Trauma (1999), *Resources for Optimal Care of the Injured Patient: 1999*, American College of Surgeons, Chicago" as a guide for patient classification. Regional data from the Kansas Trauma Registry will be used to analyze current issues and trends with respect to classification of patients.

(d)2 Facility action based upon classification of patients (i.e. Trauma team activation, stabilization/transfer, or admission for observation.)

SEKRTC will follow "Committee on Trauma (1999), *Resources for Optimal Care of the Injured Patient: 1999*, American College of Surgeons, Chicago" as a guide for facility action based upon patient designation. Regional data from the Kansas Trauma Registry will be used to analyze current issues and trends regarding action based on classification.

Needs Analysis

- Verification/designation of trauma facilities is needed. Regional Kansas Trauma Registry data is needed.

Objectives

- SEKRTC will continue to support the Kansas Trauma Program with efforts to provide accurate and timely Kansas Trauma Registry data to the RTC and each facility.
- SEKRTC will support Kansas Trauma Program efforts to implement a trauma center designation system.
- SEKRTC will use the "Committee on Trauma (1999), *Resources for Optimal Care of the Injured Patient: 1999*, American College of Surgeons, Chicago" as a guide.

Activities in Progress

- SEKRTC volunteers support to the Kansas Trauma Registry. KDHE will continue to provide technical support to facilities to aid with Kansas Trauma Registry data quality and completeness.

Planned Activities

- SEKRTC will continue to support the regional Kansas Trauma Registry and Kansas Trauma Program.
- Progress will be monitored.

Long-Term Goals

- An initial plan will be developed once trends are established using accurate regional data.

C(e) Inter-Hospital Transfers

In the SE region inter-hospital transfers and transfer agreements are the responsibility of each facility. Regional data from the Kansas Trauma Registry will be used to establish a baseline of inter-hospital transfer activity.

(e)1 Identification of patients to be transferred

Identification of patients being transferred is the responsibility of each facility. SEKRTC encourages use of those criteria found in the "Committee on Trauma (1999), *Resources for Optimal Care of the Injured Patient: 1999*, American College of Surgeons, Chicago".

(e)2 Identification of available patient destinations and criteria for selection (especially for "specialty" patients)
It is currently the responsibility of each facility. EMSystem® should be used to assist identification of available patient destination.

(e)3 Availably of regional facility "800" numbers and coordination of distributing/routing patients
SEKRTC does not have a regional "800" number.

(e)4 Available means of transporting patients and capabilities
Refer to the Field Triage Guidelines section under acknowledgement of pre-hospital care provider resources. See section C(a) Triage Guidelines pp. 12-14.

(e)5 Treatment/stabilization criteria and time guidelines should be outlined
Treatment/stabilization criteria and time guidelines are the responsibility of each facility in the region. Data from the Kansas Trauma Registry will help determine the criteria.

(e)6 Written transfer agreements
Inter-hospital transfers and transfer agreements are the responsibility of each facility.

Needs Analysis

- SEKRTC will use regional data from the Kansas Trauma Registry regarding inter-hospital transfers to determine if transfers are appropriate and timely. A standardized decision scheme for patient destination has not been developed.

Objectives

- Establish a baseline of inter-hospital transfer patient flow using the Kansas Trauma Registry.
- Support the efforts of the Kansas Trauma Program to implement a process for designation of trauma centers.

Activities in Progress

- EMSystem® implemented and supported.
- SEKRTC Trauma Capabilities Assessment will be evaluated.
- SEKRTC model field triage guidelines have been drafted.
- ACT is defining a process for trauma center designation.

Planned Activities

- Education using the model field triage protocol will be provided and implementation of the model by individual facilities will be encouraged.
- Input and support for the trauma center designation process will be provided to the Kansas Trauma Program and ACT.
- Baseline knowledge of current patient flow will be evaluated and goals will be established. Active participation in EMSystem® will be encouraged.
- SEKRTC Trauma Capabilities Assessment will be one of the tools used in determining resources.

Long-Term Goals

- Increased use of model field triage protocol by individual facilities.
- Increased participation by facilities in the trauma center designation process.
- Active use of the Trauma Capabilities database to determine resources.
- Baseline knowledge of current patient flow will be evaluated and goals will be established.

C(f) Medical Direction of Pre-hospital

Each of the 18 EMS services in the SE region has a Medical Director. The Medical Director provides "on-line" medical direction when EMS personnel have direct communication with a facility or physician. Patient care is directed using written patient care protocols when operating "offline" when medical direction is not available.

(f)1 Roles/Responsibilities of Medical Director

According to KSA 65-6126 each emergency medical service shall have a Medical Director appointed by the operator of the service to review, approve and monitor the activities of the attendants.

(f)2 Approved Protocols

The local medical society or the alternative as provided in state law approves all local protocols.

Needs Analysis

- Medical Directors should be aware of SEKRTC issues related to regional trauma plans.

Objectives

- Encourage Medical Directors to participate in SEKRTC and plan development.

Activities in Progress

- Planning and development activities are in progress.

Planned Activities

- A plan will be developed to communicate regional trauma plan information to Medical Directors.

Long-Term Goals

- All Medical Directors will support and participate in SEKRTC.

Part D - Health Care Facilities (identify the resources within the region)

D(a) Trauma Services

SEKRTC supports an inclusive trauma system where access to trauma services is available through every facility in the region. It is essential, in a regional trauma system encompassing rural areas, for each rural facility to have a clearly defined role based on its resources and distances between facilities. These factors will determine where the patient receives both initial and definitive care. Every effort should be made to ensure when the patient is transferred, it is to the most appropriate facility the first time. (See the "Committee on Trauma (1999), *Resources for Optimal Care of the Injured Patient: 1999*, American College of Surgeons, Chicago".)

A statewide process for designation of trauma centers is currently in development.

Needs Analysis

- Regional data from the Kansas Trauma Registry is necessary to evaluate and identify needs related to trauma services. SEKRTC Trauma Capabilities Assessment should be analyzed for needs and resources related to trauma services.

Objectives

- Trauma service needs will be identified from accurate data reflective of the region.
- Identify capabilities of the region to determine designation.
- Maintain resources appropriate to designation status.

Activities in Progress

- SEKRTC will continue to support the Kansas Trauma Registry and Kansas Trauma Program. Progress will be monitored.

Planned Activities

- SEKRTC will determine needs and resources based on SEKRTC Trauma Capabilities Assessment and Kansas Trauma Registry data.
- Based on regional data, SEKRTC will pursue resources to address needs.

Long-Term Goals

- Trauma service needs will be identified using accurate data representative of the region.
- Every community will have access to trauma centers.
- Obtain funding for designation process.

D(b) Regional trauma services

There are currently no ACS verified trauma centers in the SE region.

Needs Analysis

- Regional data from the Kansas Trauma Registry is necessary to evaluate and identify needs related to regional trauma services. SEKRTC Trauma Capabilities Assessment should be analyzed for needs and resources related to trauma services. There are facilities in the region that are capable of obtaining Level III or IV designation. Financial assistance is needed.

Objectives

- Obtain accurate and timely regional data to determine regional trauma service needs.
- Identify capabilities of facilities to determine Level III or IV candidates.
- Complete a periodic review to determine needs and resources of the region.

Activities in Progress

- SEKRTC will continue support of the regional Kansas Trauma Registry and Kansas Trauma Program. Progress will be monitored.

Planned Activities

- Needs and resources will be determined based on SEKRTC Trauma Capabilities Assessment and Kansas Trauma Registry data.
- Based on regional data, SEKRTC will pursue resources to address needs.

Long-Term Goals

- Trauma service needs will be identified using accurate data representative of the entire region.
- Include all facilities in trauma center designation.

D(c) Pediatric trauma services

There is not a verified pediatric trauma service in the SE region. See Appendix E for a listing of pediatric trauma services available for Kansas.

Needs Analysis

- Regional data from the Kansas Trauma Registry is necessary to evaluate and identify potential needs.

Objectives

- On a periodic basis, Kansas Trauma Registry data and SEKRTC Trauma Capabilities Assessment will be used to analyze pediatric trauma service needs and resources.

Activities in Progress

- SEKRTC will continue to support the regional Kansas Trauma Registry and Kansas Trauma Program. Progress will be monitored.

Planned Activities

- Determine needs and resources based on SEKRTC Trauma Capabilities Assessment and Kansas Trauma Registry data.
- Based on regional data, SEKRTC will pursue additional resources to address needs.

Long-Term Goals

- Pediatric trauma service needs will be identified using accurate regional data.

D(d) Trauma Rehabilitation services

SEKRTC recognizes rehabilitation is an important component in the complete care of the trauma patient. See Appendix F for a list of trauma rehabilitation services.

Needs Analysis

- Regional data from the Kansas Trauma Registry is necessary to evaluate and identify potential needs related to trauma rehabilitation services.

Objectives

- On a periodic basis, Kansas Trauma Registry data and SEKRTC Trauma Capabilities Assessment will be used to analyze trauma rehabilitation service needs and resources.

Activities in Progress

- SEKRTC will continue support of the regional Kansas Trauma Registry and Kansas Trauma Program. Progress will be monitored.

Planned Activities

- SEKRTC will determine needs and resources based on SEKRTC Trauma Capabilities Assessment and Kansas Trauma Registry data.
- Based on regional data, SEKRTC will pursue resources.

Long-Term Goals

- Trauma rehabilitation service needs will be identified using accurate data representative of the entire region.

Part E - Evaluation

Statewide reporting systems have much potential to provide information useful in modifying and improving trauma systems. If properly designed, registries can meet several key goals. In addition to evaluating the effectiveness of a trauma system in meeting a community's needs, aggregate data can assist in assessing the appropriateness of trauma standards, developing appropriate trauma prevention strategies, and in assessing the extent of resources needed to adequately support and sustain a trauma care system.

A trauma care system plan must include the ability of the system to monitor its own performance over time and to assess its impact on trauma morbidity and mortality. This requires continual assessment of system operations, demonstration that the system is meeting stated goals, and documentation of system performance. Essential to the system quality management is the ability to measure compliance to standards, document system effectiveness, and to identify quality improvement opportunities.

The ideal trauma care system has an information system that provides for the timely collection of data from all providers in the form of consistent data sets with minimum standards. The information system should be designed to provide system-wide data that allow and facilitate evaluation of the structure, process, and outcomes of the entire system, all phases of care, and their interactions. An important use of this information is to develop, implement, and influence public policy. Policies and procedures to facilitate and encourage injury surveillance and trauma care research should be developed.

E(a) Data Collection

Statewide development and implementation of the Kansas Trauma Registry started in 2001 and SEKRTC facilities actively participate in the Kansas Trauma Registry. The Kansas Trauma Program at KDHE Office of Healthcare Information, houses the Kansas Trauma Registry. SEKRTC actively monitors and provides assistance to the 15 facilities with regard to Kansas Trauma Registry training and data reporting. In addition, SEKRTC monitors the quality of registry data. Currently, the Kansas Trauma Program provides reports to SEKRTC and facilities regarding data submission and quality. The Kansas Trauma Program does not provide a comprehensive report to SEKRTC or facilities regarding specific data elements. Facilities may use the registry to generate reports unique to their facilities and the Kansas Trauma Program encourages this practice for PI purposes.

Needs Analysis

Reliable regional data from the Kansas Trauma Registry is needed. Comprehensive Kansas Trauma Registry data reports should be provided to SEKRTC and facilities.

Objectives

- The data will be valid and reliable.
- All facilities will report Kansas Trauma Registry data.
- Data quality and consistency will improve.
- Benchmarking against the National Trauma Data Bank (NTDB) will occur.
- Reports, including all state required Kansas Trauma Registry data elements, will be supplied to individual facilities and SEKRTC.
- Kansas Trauma Registry data will be used to establish a regional trauma system baseline of information.
- Develop a policy to track patients through multiple agencies for more accurate data collection.

Activities in Progress

- SEKRTC monitors facility data reporting and provides assistance to facilities that have not reported to increase compliance. SEKRTC also monitors data quality and completeness consulting with the Kansas Trauma Program on strategies to improve data.

- SEKRTC actively works with the Kansas Trauma Program to increase the amount of information reported to SEKRTC and facilities following data submission to complete the feedback loop.
- Partnering with non-reporting facilities to improve data reporting, including SEKRTC Kansas Trauma Registry meetings.

Planned Activities

- SEKRTC will continue to play an active role in monitoring and supporting facilities with data reporting and quality.
- SEKRTC will request information from the Kansas Trauma Registry to establish a baseline of the current regional trauma system.

Long-Term Goals

- One hundred percent of facilities and EMS agencies in the region will report all state required Kansas Trauma Registry data elements.

E(b) Regional quality improvement

The Kansas Trauma Plan recommends a quality improvement plan. A number of parameters have been identified to analyze as a region on a routine basis. The Kansas Trauma Registry and EMSystem® data will be used to accomplish evaluation.

Ongoing quality improvement is performed at the facility level for trauma care. A regional quality improvement process has yet to be established.

Needs Analysis

There is a need for policy related to regional PI activities based on Kansas Trauma Registry data and EMSystem® data.

Objectives

- SEKRTC will continue to support the regional Kansas Trauma Registry and the Kansas Trauma Program. Progress will be monitored.
- SEKRTC will assist and support efforts of the Kansas Trauma Program to develop a regional PI program.

Activities in Progress

- SEKRTC monitors facility data reporting and provides assistance to facilities that have not reported data to increase compliance. SEKRTC also monitors data quality and completeness consulting with the Kansas Trauma Program on strategies to improve data.
- SEKRTC actively works with the Kansas Trauma Program to increase the amount of information reported to the facilities following data submission in order to complete the feedback loop.

Planned Activities

- SEKRTC will continue to play an active role in monitoring and supporting facilities with data reporting and quality issues.
- SEKRTC will work with the Kansas Trauma Program to define a regional PI process.
- SEKRTC will work with the Kansas Trauma Program to develop non-discoverable language in policy development.

Long-Term Goals

- SEKRTC, in collaboration with the Kansas Trauma Program, will develop a PI process and begin needed training and implementation in the region.
- Standardized and comprehensive Kansas Trauma Registry reports will be provided to SEKRTC.
- Policies will be established for regional PI.

E(c) Feedback loop to all aspects of regional operations

According to the "Committee on Trauma (1999), *Resources for Optimal Care of the Injured Patient: 1999*, American College of Surgeons, Chicago", closing the loop (result) means PI efforts have the desired effect as determined by continuous evaluation. Demonstration of the continuous pursuit of PI is essential to all trauma programs. The state has plans to develop a formal process by which information can be provided that is in compliance with state and federal regulations that will provide SEKRTC with a feedback loop to all aspects of regional operations.

Needs Analysis

SEKRTC needs to develop a feedback and loop closure process that will improve the regional trauma system.

Objectives

- SEKRTC in collaboration with the Kansas Trauma Program will develop a PI process and begin training and implementation in the region.
- Standardized and comprehensive Kansas Trauma Registry reports will be provided to SEKRTC.
- Policies will be established for regional PI.

Activities in Progress

- SEKRTC supports the Kansas Trauma Registry by providing technical assistance to facilities regarding Kansas Trauma Registry data quality and reporting issues.

Planned Activities

- SEKRTC will request specific reports from the statewide Kansas Trauma Registry to address regional plan objectives.

Long-Term Goals

- A regional PI process will be developed and implemented.

E(d) Process for reviewing data filters and specific occurrences as they arise

Currently, PI activities occur in each facility. Regional PI activities will occur as the regional PI plan develops. Please refer to E(b) Regional quality improvement pp. 23-24.

Needs Analysis

SEKRTC needs to identify data filters that will trigger a case review, feedback, and loop closure process that will improve the regional trauma system.

Objectives

- Develop the filters that will flag the review process.
- Standardized mechanism for reviewing data, provided to SEKRTC, will be established.
- Policies will be established for regional PI.
- Develop a subcommittee of SEKRTC to help with review and follow-up processes.

Activities in Progress

- SEKRTC supports the Kansas Trauma Registry by providing technical assistance to facilities regarding Kansas Trauma Registry data quality and reporting issues.

Planned Activities

- SEKRTC will request specific reports from the statewide Kansas Trauma Registry to address regional plan objectives.

Long-Term Goals

- A regional PI process will be developed and implemented.

Part F - Injury Prevention and Control

F(a) Identification of resources within the region to address identified risk areas

Complete information is not available for the number or types of injury that occur in Kansas leaving the region with incomplete data to effect targeted injury prevention efforts. Currently, most injury prevention initiatives are not driven by regional injury data, but by territorial agendas or injury projections from national organizations such as the Centers for Disease Control (CDC) and state death data.

Several public and private agencies provide injury prevention services in the SE region. The Kansas SAFE KIDS Coalitions and chapters, KHP, Kansas Department of Transportation (KDOT) and county health departments offer injury prevention programs and promote public education. Prevention programs are offered at the discretion of organizations in the region. However, a centralized resource for injury prevention programs and activities is not available leaving the system fragmented. Prevention programs are under funded and competition for limited dollars occurs between programs and organizations sharing similar, if not the same, goals

Needs Analysis

- There is a lack of regional injury data to drive prevention efforts. State and national data reveal motor vehicle crashes (MVCs) are a leading killer of Kansan's. A centralized source of prevention programs is not available leaving agencies within the region unaware of available injury prevention programs and how to access them. A regional injury prevention plan using registry data to address injuries has not been developed. Limited funds are available for prevention efforts and competition exists between organizations sharing the same goals.

Objectives

- Identify state and local partners for collaboration.
- Work with state and local partners to develop a centralized prevention programs database.
- Use registry data to develop a regional injury prevention plan.

Activities in Progress

- SEKRTC has started discussion with the Kansas Trauma Program regarding use of Kansas Trauma Registry data to develop a regional injury prevention plan.
- SEKRTC has started to identify and work with local and state partners. SEKRTC has partnered with the Emergency Medical Services for Children program (EMSC) to develop a prevention programs database and website.
- Partnering with Kansas Safe Kids to distribute bike helmets.

Planned Activities

- SEKRTC plans to collect and distribute data regarding available injury prevention programs in the region through a centralized database and/or website.
- Continued monitoring of Kansas Trauma Registry data to develop an injury prevention plan will continue.
- Plan development will follow.
- Scheduling training for Child Passenger Safety technicians and special needs technicians.
- To develop a special needs child restraint plan to meet education and distribution needs.
- Partnering with statewide organizations, i.e., Safe Kids, EMSC, Kansas Safety Belt Education Office, and MidAmerica Poison Control Center, to distribute injury prevention education and safety devices.
- Review RFP for KDHE injury prevention grant and encourage applying for available grants.

Long-Term Goals

- The region will be aware of, and actively use, the injury prevention/trauma education database as a method of reporting and receiving information regarding injury prevention programs and events.
- A regional injury prevention plan will be developed in conjunction with regional partners using Kansas Trauma Registry data; consequently, programs will be implemented from a comprehensive plan. A policy platform will be updated and approved on an annual basis.

Part G - Human Resources

G(a) Identify gaps in education and training

Education

The Kansas Trauma Program provided funding for trauma education from 2002 to 2004. The funding subsidized three trauma courses for physicians and mid-level practitioners, nurses, and EMS personnel that included ATLS, TNCC, and PHTLS. In June 2004, the trauma education program was discontinued due to lack of funding. Currently, the aforementioned courses are offered at various facilities throughout the region. An additional course developed by ACS has been provided in the region; the Rural Trauma Team Development Course (RTTDC) is designed for rural facilities that may not have the resources of a larger trauma center, but still cares for the occasional critically injured patient. In 2003, SEKRTC conducted a needs assessment survey that indicated a need for trauma education in rural areas for EMS personnel, nurses and physicians. A community education plan regarding SEKRTC, trauma center verification/designation, and the regional trauma plan, needs to be developed and implemented.

Needs Analysis

- There is a major lack of funding and resources for trauma education. The Kansas Trauma Program does not require trauma education for all providers who treat trauma patients. Staffing issues exist in rural and frontier areas making it challenging for providers to receive education. Technology for education initiatives is not available to all facilities in the region. Based on the 2003 SEKRTC Needs Survey, the SEKRTC has established PHTLS, TNCC, and the ATLS as priority education programs needed in the region.

Objectives

- SEKRTC will support efforts to increase trauma education funding by assessing available resources and grant opportunities.
- SEKRTC will assess ways to make education more accessible to rural and frontier areas and provide information to the Kansas Trauma Program.
- SEKRTC will support educational technology and its use throughout the region.
- SEKRTC will periodically review the regional education needs. These may include the following: PHTLS, TNCC, ATLS, RTTDC, Emergency Nursing Pediatric Course (ENPC), Pediatric Education for Pre-hospital Professionals (PEPP), Pediatric Prehospital Care (PPC), and Pediatric Advanced Life Support (PALS).

Activities in Progress

- SEKRTC communicates on an ongoing basis with the Kansas Trauma Program and the ACT regarding education-funding needs.
- SEKRTC is planning a minimum of two PHTLS courses in 2005.
- SEKRTC has partnered with the Emergency Medical Services for Children (EMSC) program to participate in the statewide prevention and education centralized database development planning committee.
- Three RTTDC courses are being planned.
- The Glasgow Coma Score educational video will be provided to EMS and facilities through SEKRTC.

Planned Activities

- SEKRTC, in conjunction with all RTCs, plans to approach local lawmakers and legislators regarding funding issues.
- Include RTTDC throughout the region.
- Partner with Southeast Kansas Hospital Preparedness and the regional EMS council to accomplish the activities.

Long-Term Goals

- An increase in providers educated in trauma care will be recognized.
- SEKRTC will become a recognized resource for trauma education and consultation.
- SEKRTC should increase the number of providers educated in trauma care.

G(b) Community Education

Educating a diverse group of healthcare organizations and professionals regarding the benefits of the trauma system is key to improving the system. Widespread community and provider support for the trauma system is necessary for system improvement.

Needs Analysis

Healthcare organizations and professionals need information regarding SEKRTC mission and purpose, state trauma center designation, SEKRTC Field Triage Protocol and the regional trauma system plan.

Objectives

- Increase awareness in the healthcare community of SEKRTC, state trauma center designation, SEKRTC Field Triage Protocol and the regional trauma system plan.

Activities in Progress

- Plan development.

Planned Activities

- Develop a plan to address regional trauma system provider education needs.

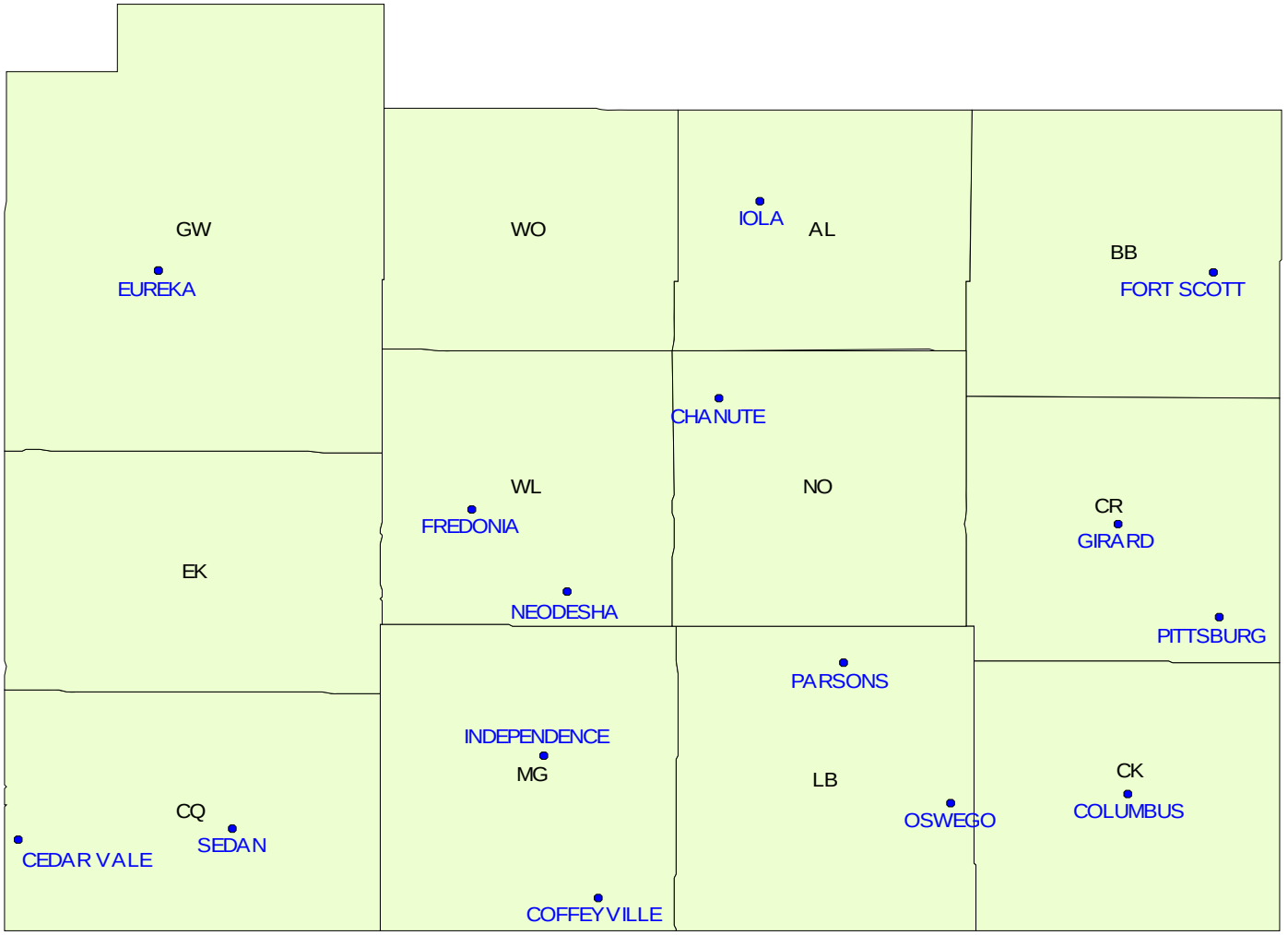
Appendix A

Southeast Trauma Region Map

SE Kansas Hospital Cities

Counties:

AL	Allen
BB	Bourbon
CQ	Chautauqua
CK	Cherokee
CR	Crawford
EK	Elk
GW	Greenwood
LB	Labette
MG	Montgomery
NO	Neosho
WL	Wilson
WO	Woodson



Prepared 04/05/05

Appendix B

SEKRTC Member Organizations

First Name	Last Name	Credentials	Title/Discipline	Organization	Address	City	Zip	Work Phone
Judy	Highberger	RN	ED Manager	Allen County Hospital	101 First St.	Iola	66749	620-365-1244
Steve	Hoelschen		Administrator	Allen County Hospital	101 First St.	Iola	66749	620-365-1021
Gordon	Sipkens	D.O.		Allen County Hospital	101 South First St.	Iola	66749	620-365-1185
Jeanie	Beason	RN	RN Administrator	Chautauqua County Health Department	215 North Chautauqua	Sedan	67361	620-725-5850
Doug	Mogle		Director	Cherokee County Ambulance	P. O. Box 307	Columbus	66725	620-429-3018
Betha	Williams		Administrator	Cherokee County Health Department	P. O. Box 107	Columbus	66725	620-429-3087
Jo Ann	Russell			Cherryvale EMS	329 West 2nd	Cherryvale	67335	620-336-2121
James	Christenson	M.D.	Physician	Coffeyville Regional Medical Center	209 West 4th	Coffeyville	67337	620-251-1100
Jerry	Marquette		Administrator	Coffeyville Regional Medical Center	1400 West 4th St.	Coffeyville	67337	620-583-7451
Susan	McDaniel	RN		Coffeyville Regional Medical Center	1400 West 4th St.	Coffeyville	67337	620-252-1631
Rick	Lanning			Coffeyville Regional Medical Center - EMS	1400 West 4th St.	Coffeyville	67337	620-252-1526
Jim	Wilhelms		Director	Coffeyville Regional Medical Center - EMS	1400 West 4thSt.	Coffeyville	67337	620-252-1690
Joe	Adams		Director	Crawford County EMS	P. O. Box 292	Girard	66743	620-231-3344
Scarlett	Tomasi	MICT	EMS	Crawford County EMS	302 Hospital Drive	Girard	66743	620-231-3344
Janis	Goedeke	ARNP		Crawford County Health Department	410 East Atchison	Pittsburg	66762	620-231-5411
Marty	Kolarik		EMS	EagleMed	6601 West Pueblo	Wichita	67209	800-764-3343
Kandy	Dowell	RN, ADM	Administrator	Elk County Health Department	P. O. Box 566	Howard	67349	620-374-2277
Todd	Ballard	MICT	Director	Fredonia EMS	1527 Madison	Fredonia	66736	620-378-2121
Kim	Buttler			Fredonia Regional Hospital	1524 Madison	Fredonia	66736	620-378-2121
Terry	Deschanie		Administrator	Fredonia Regional Hospital	1527 Madison	Fredonia	66736	620-378-2121
Ambrosio	Mendigla	M.D.	Physician	Fredonia Regional Hospital	1527 Madison, Suite 1	Fredonia	66736	620-378-3341
Mark	Basham	M.D.		Greenwood County Hospital	100 West 16th St.	Eureka	67045	620-583-7979
Bruce	Birchell		Administrator	Greenwood County Hospital	100 West 16th St.	Eureka	62045	620-583-7451
Tandy	Noeller			Greenwood County Hospital	100 West 16th St.	Eureka	67045	620-583-7451
David	Cowan		Director	Independence EMS	120 North 6th	Independence	67301	620-332-2528
Darin	Hamlin		EMS	Independence EMS	120 North 6th	Independence	67301	620-332-0827
Debbi	Baugher	RN, ADM	RN Administrator	Labette County Health Department	1902 South Hwy 59	Parsons	67357	620-421-4350
Sonya	Culver	D.O.	Physician	Labette County Medical Center	1902 South Highway 59	Parsons	67357	620-820-5264
Sandy	Fox	RN	Nurse	Labette County Medical Center	1902 South Highway 59	Parsons	67357	620-820-5264
Stephan	Miller	M.D.		Labette County Medical Center	1509 Main	Parsons	67357	620-421-0600
Linda	West		ER Director	Labette County Medical Center	1902 South Highway 59	Parsons	67357	620-820-5262

Terry	Staggs		EMS	Labette County medical Center - EMS	1902 South Highway 59	Parsons	67357	620-421-2401
Christopher	Way		Director	Labette County Medical Center - EMS	1902 South Highway 59	Parsons	67357	620-421-2401
Christi	Keating	RN	Director ER/EMS	Mercy Hospital - Ft. Scott	401 Woodland Hills Boulevard	Fort Scott	66701	620-223-7070
David	Phelps	M.D.	Physician	Mercy Hospital - Ft. Scott	401 Woodland Hills Boulevard	Fort Scott	66701	620-223-7057
Lisa	Weber		Administrator	Mercy Hospital - Independence	800 West Myrtle St.	Independence	67301-0388	620-331-2200
Leonard	Weaver		Division Director	Mercy Hospital Indpendence	800 West Myrtle St.	Independence	67301-0388	620-332-3226
Ruth	Bardwell		Administrator	Montgomery County Health Department	908 South Walnut	Coffeyville	67337	620-251-4210
Tom	Pryor		Administrator	Mt. Carmel Regional Medical Center	1102 East Centennial	Pittsburg	66762	620-232-0362
Stephanie	Thompson	ADM		Neosho County Health Department	320 East Main	Chanute	66720	620-431-5770
Kevin	Sands	MICT		Neosho Memorial EMS	629 South Plummer	Chanute	66720	620-432-5716
Murray	Brown		Administrator	Neosho Regional Medical Center	629 Plummer	Chanute	66720	620-431-4000
Patricia	Lucke			Neosho Regional Medical Center	629 South Plummer	Chanute	66720	620-431-4000 Ext. 2225
Maggie	Hadley		Director	Sedan Area EMS	P. O. Box 302	Sedan	67367	620-725-5670
DeeAnn	Williams			Sedan Area EMS	301 Harrison	Sedan	67361	620-725-4197
Susie	Bader		Administrator	Sedan City Hospital	P. O. Box C	Sedan	67361	620-725-3115
Diane	Bertone	MSN, ARNP	Administrator	SEK Multi-County Health Department	P. O. Box 304	Iola	66749	620-365-2191
Mark	Brown	MICT	Base Medical Supervisor	St. John's MedFlight	2727 McClelland Boulevard	Joplin	64804	417-625-2887
David	Short	PA-C		Tallgrass Clinic	P. O. Box 308	Sedan	67361	620-725-3818
Richard	Vaught			William Newton Hospital	1300 East 5th Avenue	Winfield	67156	620-221-2300
Loralee	Gibson	RN, BSN	Nurse	Wilson County Health Department	Room 1 Courthouse	Fredonia	66736	620-518-4455
Nancy	Carpenter		Director of Nursing	Wilson County Hospital	205 Mill St.	Neodesha	66757	620-325-2611
F. Allen	Moorhead	M.D.	Physician	Wilson County Hospital	205 Mill St.	Neodesha	66757	620-325-2611
Deanna	Pittman		Administrator	Wilson County Hospital	205 Mill St.	Neodesha	66757	620-325-2611

Appendix C

Frequency and EMD Centers in SE Kansas Region

	Description					Dispatch Band						Operational Band					
	Fire	EMS	Law Enforcement	Hospital	Other	CB	FM	VHF	UHF	800	Other	CB	FM	VHF	UHF	800	Other
Frequency	158	81	99	0	38	0	1	191	86	41	8	0	1	184	78	48	6
Percent	42%	22%	26%	0%	10%	0%	0%	58%	26%	13%	2%	0%	0%	58%	25%	15%	2%

The frequencies listed above are only percentages.

ALLEN COUNTY SHERIFF'S OFFICE P.O. BOX 433 IOLA, KS 66749	BOURBON COUNTY SHERIFF'S OFFICE P.O. BOX 42 FORT SCOTT, KS 66701
CHAUTAUQUA COUNTY SHERIFF'S OFFICE 215 N. CHAUTAUQUA ST. SEDAN, KS 67361	CHEROKEE COUNTY SHERIFF'S OFFICE 110 W. MAPLE, RM. 39 COLUMBUS, KS 66725
CRAWFORD COUNTY SHERIFF'S OFFICE 225 N. ENTERPRISE DR. GIRARD, KS 66743	ELK COUNTY SHERIFF'S OFFICE P.O. BOX 127 HOWARD, KS 67349
FORT SCOTT POLICE DEPT. 1604 S. NATIONAL FORT SCOTT, KS 66701	GREENWOOD COUNTY SHERIFF'S OFFICE P.O. BOX 150 EUREKA, KS 67045
LABETTE COUNTY COMMUNICATIONS 718 5TH ST. OSWEGO, KS 67356	MONTGOMERY COUNTY SHERIFF'S OFFICE 300 E. MAIN INDEPENDENCE, KS 67301
NEOSHO COUNTY 911 COMMUNICATIONS P.O. BOX 162 ERIE, KS 66733	PARSONS POLICE DEPARTMENT 217 N. CENTRAL PARSONS, KS 67357
CITY OF CANEY – POLICE AMBULANCE/FIRE DEPARTMENTS 211 W. 5TH AVE. CANEY, KS 67333-1409	INDEPENDENCE POLICE DEPT 120 N. 6TH ST. INDEPENDENCE, KS 67301
WILSON COUNTY SHERIFF'S OFFICE 421 N. 7TH ST. FREDONIA, KS 66736	NEOSHO COUNTY SHERIFF'S OFFICE 402 E. STATE ST. ERIE, KS 66733
WOODSON COUNTY SHERIFF'S OFFICE 105 W. RUTLEDGE YATES CENTER, KS 66783	COFFEYVILLE POLICE DEPARTMENT P.O. BOX 1629 COFFEYVILLE, KS 67337

Appendix D

Field Triage Guidelines

Trauma Patient Field Protocol

The purpose of this model protocol is to develop a standard method of field decision-making and communication in regard to trauma patients for all pre-hospital services.

This model protocol assumes each pre-hospital service has the following capabilities or uses the following standard guidelines:

1. The pre-hospital agency uses the National Standard Triage Color Code System (see Table 3)
2. The pre-hospital agency's dispatch center or medical direction utilizes the EMSystem™ to monitor availability of receiving hospitals capable of treating trauma patients
3. The pre-hospital agency utilizes the regional trauma alert method to notify the receiving trauma facility of patient information
4. The pre-hospital agency utilizes Glasgow Coma Scale in assessing trauma adult patients and Pediatric Coma Scale for pediatric patients (see Tables 1 and 2)

The advantages of all pre-hospital agencies utilizing this model protocol are as follows:

1. Standardized decision making processes for choosing the most appropriate receiving facility for a trauma patient, especially in mutual aid incidents
2. Standardized method of determining what receiving facilities are available utilizing EMSystem™
3. Standardized communication of patient information and trauma alert notification to all trauma-receiving facilities

I. Pre-hospital agencies should use the American College of Surgeons Field Triage Decision Scheme to identify those patients in need of trauma center referral as adapted by the Southeast Kansas Regional Trauma plan.

II. Updated information on the status (ability to receive additional patients, and availability of Medical Resources) of area hospitals should be quickly accessed using the EMSystem, and a decision must be made on the most appropriate receiving facility.

III. For patients meeting the criteria for a trauma alert, a decision must be made on the mode of transport that will most quickly deliver the patient to definitive care.
   A. For a potentially serious trauma patient, air medical resources should be placed on stand by status to minimize time delay in transport to appropriate level I/II trauma facilities.
   B. Weather conditions or other unavailability issues may prevent air medical transport of the patient from that location, and appropriate ground transportation should be initiated to a:
      1. Safe rendezvous point
      2. To level I/II trauma facility
   C. Severe weather and/or factors may make it too dangerous for any long distance transport, and the patient will have to be transported to the closest medical facility.

IV. If transport of the patient will be done by ambulance, the receiving facility should be contacted to alert the Trauma Team.
   A. The EMS team should alert the facility with the following:
      1. Notification of trauma patient.
      2. Age
      3. Mechanism of injury
      4. ETA
      5. GCS
   B. A more detailed patient report can be communicated enroute.

V. This model protocol defines all the standard systems and procedures necessary for all Southeast Kansas EMS services to:
   A. Consistently assess the severity of a trauma patient based upon national standards
   B. Consistently communicate a trauma alert to receiving trauma facilities
   C. Consistently make the best decision on transport destination to an appropriate trauma facility.

VI. This model protocol stops short of making decisions that need to be made by each pre-hospital agency's medical control. Local medical control should define the following:
   A. What are the closest, most appropriate trauma facilities with surgical intervention based upon time and distance?
   B. In some situations would stabilization at a closer medical facility without surgical intervention be appropriate?

ADULT FIELD TRIAGE DECISION SCHEME

Initial Assessment parameters

- Glasgow Coma Scale (see Table 1)…….. < 14 or
- Systolic Blood Pressure…….. < 90 or
- Respiratory Rate…….. < 10 or > 29

Assess Anatomy of Injury

- All penetrating injuries to the head, neck, torso and extremities proximal to elbow and knee
- Flail chest
- Combination trauma with burns
- Two or more proximal long-bone fractures
- Pelvic fractures
- Open or depressed skull fracture
- Paralysis
- Amputation proximal to wrist and ankle
- Major burns

YES → **Go to Trauma Alert Algorithm (Code Red)**

NO ↓

Initial Assessment parameters

- Glasgow Coma Scale (see Table 1)…….. < 14 or
- Systolic Blood Pressure…….. < 90 or
- Respiratory Rate…….. < 10 or > 29

YES → **Go to Trauma Alert Algorithm (Code Red)**

EVALUATE FOR EVIDENCE OF MECHANISM OF INJURY AND HIGH ENERGY IMPACT

- Ejection from automobile
- Death in same passenger compartment
- Extrication time > 20 minutes
- Falls > 20 feet
- Rollover
- High speed auto crash — Initial speed > 40 mph; Major auto deformity > 20 inches; Intrusion into passenger compartment > 12 inches
- Auto-pedestrian /auto-bicycle injury with significant impact
- Pedestrian thrown or run over
- Motorcycle crash > 20 mph or with separation of rider from bike

OTHER FACTORS

- Age < 15 (see pediatric algorithm) or > 55
- Cardiac disease, respiratory disease
- Insulin-dependent diabetes, cirrhosis, or morbid obesity
- Pregnancy
- Immunosuppressed patients
- Patients with bleeding disorder or patient on anticoagulants

If patient has all three of the initial assessment factor and has any evidence of mechanism of injury/high energy impact/other factors

NO → Transport to closest appropriate Medical facility **Code yellow**

PEDIATRIC FIELD TRIAGE DECISION SCHEME

Initial Assessment parameters

- Pediatric Glasgow Coma Scale (see Table 2)…….. < 10 or
- Capillary Refill ……..…….. >2 seconds
- Respiratory Rate…….…….. < 12 or > 60

ASSESS ANATOMY OF INJURY

- All penetrating injuries to the head, neck, torso and extremities proximal to elbow and knee
- Flail chest
- Combination trauma with burns
- Two or more proximal long-bone fractures
- Pelvic fractures
- Open or depressed skull fracture
- Paralysis
- Amputation proximal to wrist and ankle
- Major burns

Two or more of the initial assessment parameters and any of Anatomy of injuries

YES → **Go to Trauma Alert Algorithm (Code Red)**

NO ↓

Initial Assessment parameters

- Pediatric Glasgow Coma Scale (see Table 2)…….. < 10 or
- Capillary Refill ……..…….. >2 seconds
- Respiratory Rate…….…….. < 12 or > 60

EVALUATE FOR EVIDENCE OF MECHANISM OF INJURY AND HIGH ENERGY IMPACT

- Ejection from automobile
- Death in same passenger compartment
- Extrication time > 20 minutes
- Falls > twice patient's height
- Unrestrained patient in an automobile rollover accident
- Air bag deployment with child in front seat who is < 12 years of age
- High speed auto crash — Initial speed > 40 mph; Major auto deformity > 20 inches; Intrusion into passenger compartment > 12 inches
- Auto-pedestrian /auto-bicycle injury with significant (>5mph) impact
- Pedestrian thrown or run over
- Motorcycle crash > 20 mph or with separation of rider from bike

Other Factors

- Congenital heart disease, respiratory disease
- Insulin-dependent diabetes, liver disease, or morbid obesity
- Pregnancy
- Immunosuppressed patients
- Patients with bleeding disorder or patient on anticoagulants

If patient has all three of the initial assessment factor and has any evidence of mechanism of injury/high energy impact/other factors

YES → **Go to Trauma Alert Algorithm (Code Red)**

NO → Transport to closest appropriate Medical facility **Code yellow**

TRAUMA ALERT ALGORITHM

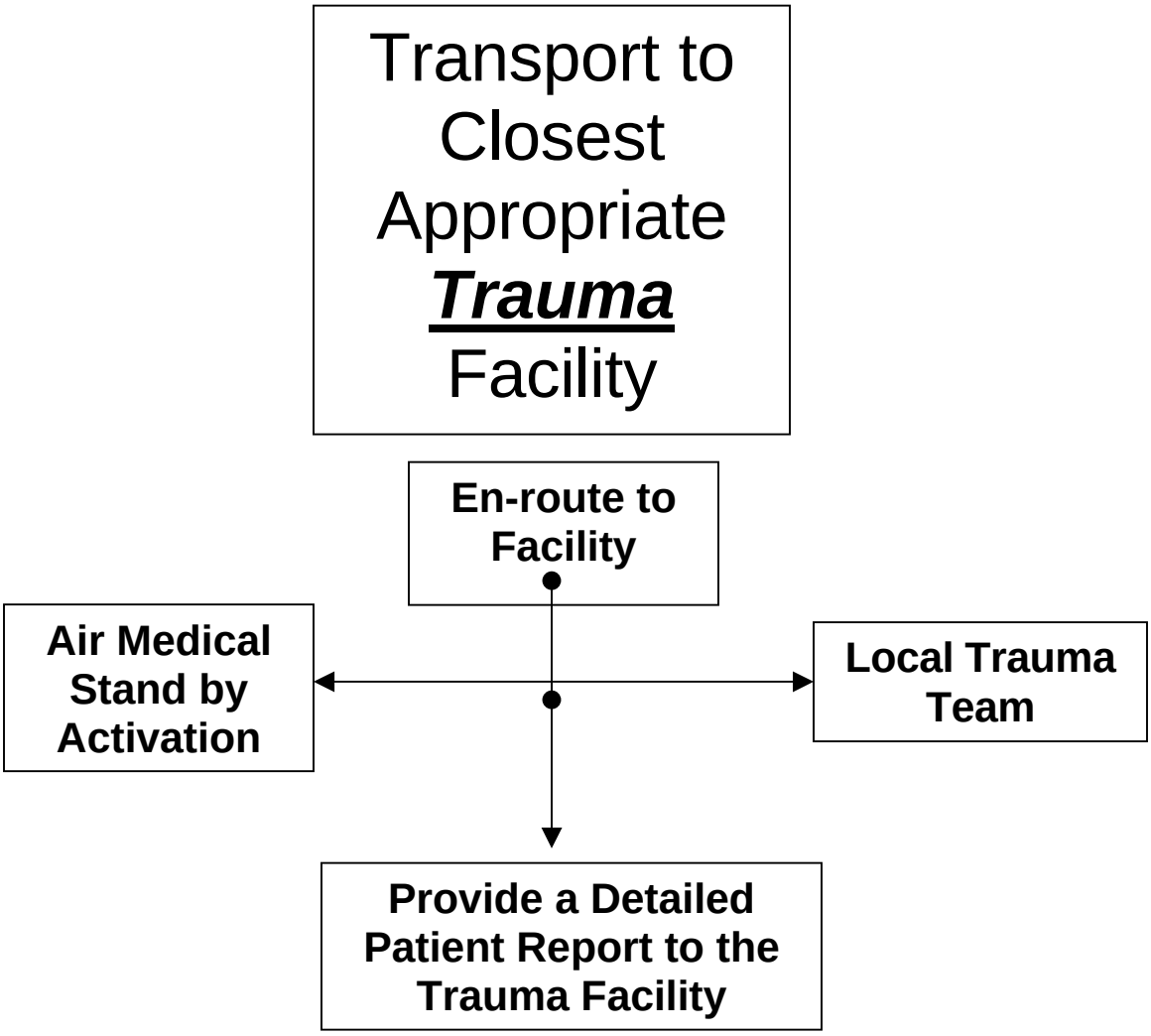


TABLE 1 – ADULT GLASGOW COMA SCALE

ADULT GLASGOW COMA SCALE			
EYE OPENING	Spontaneous	4	
	To voice	3	
	To pain	2	
	None	1	
VERBAL RESPONSE	Oriented	5	
	Confused speech	4	
	Inappropriate words	3	
	Incomprehensible sounds	2	
	None	1	
MOTOR RESPONSE	Obeys commands	6	
	Localizes pain	5	
	Withdraws to pain	4	
	Abnormal flexion to pain	3	
	Abnormal extension	2	
	None	1	
E + V + M **TOTAL GLASGOW COMA SCORE**: (3-15)			

TABLE 2 – MODIFIED GCS FOR INFANTS AND CHILDREN

PEDIATRIC COMA SCALE

Eye Opening		Best Verbal Response		Best Motor Response	
Spontaneously	4	Oriented,coos	5	Obeys commands	6
To speech	3	Words,irrit. cry	4	Localizes pain	5
To pain	2	Cries to pain	3	Withdraws from pain	4
None	1	Moans, grunts	2	Abnormal flexion	3
		None	1	Abnormal extension	2
				None	1

Less than 6 months	- Best verbal response is to cry
6 - 12 months	- Normal infant makes noises
> 12 months	- Expect recognizable simple words
5 years	- Expect orientation

E + V + M

TOTAL SCORE 3 -15

TABLE 3 - PRE-HOSPITAL TRIAGE COLOR CODES

(Based upon the National Triage Color Code System)

CODE GREEN	NONSERIOUS, NON-LIFE THREATENING INJURY/ILLNESS
CODE YELLOW	SERIOUS, POTENTIALLY LIFE THREATENING ILLNESS/INJURY
CODE RED	CRITICAL ILLNESS/INJURY
CODE BLUE	ANY PATIENT IN RESPIRATORY AND/OR CARDIAC ARREST
CODE BLACK	ANY PATIENT WHO IS OBVIOUSLY DEAD OR A PATIENT THAT HAS RESUSCITATION EFFORTS TERMINATED
CODE ORANGE	PSYCHIATRIC/BEHAVIORAL DISORDER

Appendix E

Pediatric/Adult Trauma Services

Pediatric Hospital Name	City	State	ACS Verification Level	State Designated	Number
Cardinal Glennon Children's Hospital	St. Louis	MO		Level I	314-577-5600
Children's Medical Center	Dallas	TX	Level I		214-456-7000
Children's Mercy Hospital & Clinics	Kansas City	MO		Level I pediatric - burn	866-512-2168*
Covenant Children's Hospital	Lubbock	TX	Level II Pediatric		806-725-1011
OK University Medical Center	Oklahoma City	OK	Level I Adult & Pediatric		405-271-KIDS (5437)
Shriners Hospital – Burn	Cincinnati	OH	Non Designated	Non Designated	800-875-8580*
Shriners Hospital – Burn	Galveston	TX	Non Designated	Non Designated	409-770-6600
Shriners Hospital – Orhopaedic and spinal cord injury	Chicago	IL	Non Designated	Non Designated	888-385-0161*
Shriners Hospital – Orthopaedic	St. Louis	MO	Non Designated	Non Designated	314-432-3600
St. Louis Children's Hospital	St. Louis	MO		Level I	800-678-KIDS*
The Children's Hospital	Denver	CO	Level I Pediatric		800-624-6553*
The Children's Hospital @ Parker Adventist	Parker	CO	Non Designated	Non Designated	303-269-4890
Trauma Centers and Hospitals	**City**	**State**	**ACS Verification Level**	**State Designated**	
COLORADO					
Denver Health Medical Center	Denver	CO	I		303-436-6000
Littleton Adventist Hospital	Littleton	CO		II	303-730-8900
Memorial Hospital	Colorado Springs	Co		II	800-826-4889*
National Jewish Medical & Research Center	Denver	CO	Non Designated	Non Designated	800-222-5864*
North Colorado Medical Center	Greeley	CO	II		970-352-4121
Parkview Medical Center	Pueblo	CO		II	800-543-8984*
Penrose St. Francis Health Services	Colorado Springs	CO		II	719-776-5000
Porter Adventist Hospital	Denver	CO	Non Designated	Non Designated	303-778-1955
Poudre Valley Hospital	Ft. Collins	CO	II		970-482-3328
Presbyterian/St. Lukes Med Ctr.	Denver	CO	Non Designated	Non Designated	303-839-6000
St Mary-Corwin Med Ctr.	Pueblo	CO	II		800-228-4039*
St. Anthony Central Hospital	Denver	CO	I		303-629-3846

* - This is a toll free number that can be reached nationwide

St. Marys Hospital & Med Ctr	Grand Junction	CO		II	800-458-3888*
Swedish Medical Center	Englewood	CO	I		303-788-5000
The Medical Center of Aurora	Aurora	CO		II	888-265-4265*
University of Colorado Hospital Authority	Denver	CO		II	303-372-0000
IOWA					
Alegent Mercy Hospital Southwest Iowa Medical Center	Council Bluffs	IA		Level III	712-328-5000
Iowa Methodist Medical Center	Des Moines	IA	Level I		515-241-6212
Jennie Edmundson Hospital	Council Bluffs	IA		Level III	712-396-6000
Mercy Medical Center	Des Moines	IA	Level II		515-247-3121
Mercy Medical Center	Sioux City	IA	Level II		800-352-3559*
University of Iowa Health Care	Iowa City	IA	Level I		800-777-8442*
KANSAS					
Salina Regional Health Center	Salina	KS	not designated	not designated	785-452-7000
St. Francis Health Center	Topeka	KS	not designated	not designated	785-354-6000
Stormont-Vail Health Care	Topeka	KS	not designated	not designated	800-444-2954
University of Kansas Hospital	Kansas City	KS	Level I		800-332-4199
Via Christi St. Francis	Wichita	KS	Level I		800-362-0070
Wesley Medical Center	Wichita	KS	Level I		800-362-0288
MISSOURI					
Barnes-Jewish Hospital	St. Louis	MO	Level I		314-747-3000
Cox Medical Center	Springfield	MO		Level II	417-269-3000
De Paul Health Center	Bridgeton	MO		Level II	314-344-6000
Freeman Hospital	Joplin	MO		Level II	800-477-6610*
Heartland Regional Medical Center	St. Joseph	MO		Level II	800-443-1143*
Independence Regional health Center	Independence	MO		Level II	816-836-8100
Liberty Hospital	Liberty	MO		Level II	816-781-7200
North Kansas City Hospital	N. Kansas City	MO		Level II	816-691-2000

* - This is a toll free number that can be reached nationwide

Research Medical Center	Kansas City	MO		Level II	816-276-4000
St. Anthony Medical Center	St Louis	MO		Level II	314-525-1000
St. John's Mercy	St. Louis	MO		Level 1	314-569-6000
St. John's Regional health Center	Springfield	MO		Level I	417-820-2000
St. John's Regional Medical Center	Joplin	MO		Level II	417-781-2727
St. Joseph Health Center	St. Charles	MO		Level II	636-947-5000
St. Louis University	St. Louis	MO		Level !	314-577-8000
St. Luke's	Kansas City	MO		Level I	816-932-6220
Truman Medical Center	Kansas City	MO		Level 1	816-404-1000
University of Missouri	Columbia	MO	Level I		573-882-4141
NEBRASKA					
Bryan/LGH Medical Center West,	Lincoln	NE	Level II		800-742-7845*
Good Samaritan Hospital	Kearney	NE	Level II		308-865-7100
Regional West Medical Center	Scottsbluff	NE	Level II		308-635-3711
University of Nebraska Medical Center	Omaha	NE		Level I	402-559-4000
OKLAHOMA					
Oklahoma University Medical Center	OKC	OK	Level I		405-271-4700
TEXAS					
Baptist St. Anthony's Health System	Amarillo	TX	Non Designated	Non Designated	806-212-2000
Covenant Medical Center	Lubbock	TX	Level II		806-725-1011
University Medical Center	Lubbock	TX	Level I		806-775-8200

* - This is a toll free number that can be reached nationwide

Appendix F

SE Region Hospitals
Military Hospitals
Specialty Services
Rehabilitation Services

HOSPITAL	ADDRESS	CITY	ZIP	CARF	Website	Phone
Cedar Vale Community Hospital	501 Cedar, P.O. Box 398	Cedar Vale	67024			(620) 758-2266
Neosho Memorial RMC	629 S. Plummer	Chanute	66720		www.neoshomemorial.com	(620) 431-4000
Coffeyville Reg. Medical Center	1400 W. Fourth, P.O. Box 856	Coffeyville	67337		www.crmcinc.com	(620) 251-1200
St. Johns Maude Norton Mem. Hospital	220 N. Pennsylvania	Columbus	66725			(620) 429-2545
Greenwood County Hospital	100 W. 16th	Eureka	67045			(620) 583-7451
Mercy Health Center	401 Woodland Hills Blvd.	Fort Scott	66701	X	www.mercykansas.com	(620) 223-7057
Fredonia Regional Hospital	1527 Madison, P.O. Box 579	Fredonia	66736			(620) 378-2121
Hospital Dist. #1 of Crawford County	302 N. Hospital Drive	Girard	66743		www.hd1cc.com	(620) 724-8291
Mercy Hospital	800 W. Myrtle St., P.O. Box 388	Independence	67301		www.mercykansas.com	(620) 331-2200
Allen County Hospital	101 S. First, P.O. Box 540	Iola	66749		www.allencountyhospital.com	(620) 365-1000
Wilson County Hospital	205 Mill St., P.O. Box 360	Neodesha	66757		www.wilsoncountyhospital.org	(620) 325-2611
Oswego Medical Center	800 Barker Drive	Oswego	67356			(620) 795-2921
Labette County Medical Center	1902 S. U.S. Hwy. 59	Parsons	67357		www.lcmc.com	(620) 421-4880
Mt. Carmel Regional Medical Center	1102 E. Centennial Drive	Pittsburg	66762		www.mtcarmel.org	(620) 231-6100
Sedan City Hospital	300 North St., P.O. Box C	Sedan			www.sedanhospital.org	(620) 725-3115
Kansas Hospital Association, Retrieved June 7, 2005, from http://www.kha-net.org/general/testhospital						

Military Hospitals	ADDRESS	CITY	ZIP	CARF	Website	Phone
None						

Specialty Hospitals	ADDRESS	CITY	ZIP	CARF	Website	Phone
Parsons State Hosp. & Trng. Ctr.	2601 Gabriel, P.O. Box 738	Parsons	67357			(620) 421-6550

Rehabilitation	***ADDRESS***	***CITY***	***ZIP***	***CARF***	***Website***	***Phone***
Physical Therapy Services	2921 West 1st St.	Coffeyville	67337			(620) 251-9016
Southeast Kansas Medical Associates	1501 West 4th St.	Coffeyville	67337			(620) 251-1200
Coffeyville Regional Medical Center	1400 West 4th St.	Coffeyville	67337			(620) 251-1200
Bluestem Medical Clinic Pa	1602 North Elm St. Suite A	Eureka, KS	67045			(620) 583-7436
Health For Life Physical Therapy	405 Woodland Hills Blvd	Fort Scott	66701			(620) 431-7424
Saint Luke's Health System	421 South Maple St.	Garnett	66032			(816) 932-6220
Mercy Health For Life	2011 North Penn Avenue	Independence	67301			(620) 331-7250
Wilson County Hospital - Outpatient Physical Therapy	602 Main St.	Neodesha	66757			(620) 325-2253
Labette County Medical Center	1902 South US Highway 59	Parsons	67357			(620) 421-4881
Johnson Kenneth WMD	1902 South US Highway 59	Parsons	67357			(620) 421-4881
Mt Carmel Rehabilitation Services	11 Med Center Circle Suite B	Pittsburg	66762			(620) 232-0178
Kansas Physical Therapy And Rehabilitation, Retrieved June 7, 2005, from http://pt.medical-info.us/KS						

Appendix G

Glossary

GLOSSARY

9-1-1 - a three-digit telephone number to facilitate the reporting of an incident or situation requiring response by a public safety agency.

Advanced Trauma Life Support (ATLS) - a course developed and sponsored by the American College of Surgeons Committee on Trauma for physicians that covers trauma knowledge and Skills.

Basic Trauma Life Support (BTLS) - a course for pre-hospital care providers sponsored by the American College of Emergency Physicians.

bypass - transport of an EMS patient past a normally used EMS receiving facility to a designated medical facility for the purpose of accessing more readily available or appropriate medical care.

citizen access - the act of requesting emergency assistance for a specific event.

communications system - a collection of individual communication networks, a transmission system, relay stations, and control and base stations capable of interconnection and interoperation that are designed to form an integral whole. The individual components must serve a common purpose, be technically compatible, employ common procedures, respond to control, and operate in unison.

designation - formal recognition of hospitals as providers of specialized services to meet the needs of the severely injured patient; usually involves a contractual relationship and is based on adherence to standards.

disaster - any occurrence that causes damage, ecological destruction, loss of human lives, or deterioration of health and health services on a scale sufficient to warrant an extraordinary response from outside the affected community area.

dispatch - coordination of emergency resources in response to a specific event.

EMSystem® - is a web-based management tool for to assist with ambulance diversion, mass casualty management, and other information sharing among system users which include hospitals, EMS, public health and other public safety agencies

emergency medical services for children (EMS-C) - an arrangement of personnel, facilities and equipment for the effective and coordinated delivery of emergency health services to infants and children that is fully integrated within the emergency medical system of which it is a part.

emergency medical services system (EMS) - a system that provides for the arrangement of personnel, facilities, and equipment for the effective and coordinated delivery of health care services in appropriate geographical areas under emergency conditions.

Enhanced 9-1-1 - a telephone system that includes automatic number identification, automatic location identification, and (optimally) selective routing, to facilitate appropriate public safety response.

field categorization (classification) - a medical emergency classification procedure for patients that is applicable under conditions encountered at the site of a medical emergency.

inclusive trauma care system - a trauma care system that incorporates every health care facility in a community in a system in order to provide a continuum of services for all injured persons who require care in an acute care facility; in such a system, the injured patient's needs are matched to the appropriate hospital resources.

injury - the result of an act that damages, harms, or hurts; unintentional or intentional damage to the body resulting from acute exposure to thermal, mechanical, electrical or chemical energy or from the absence of such essentials as heat or oxygen.

injury control - the scientific approach to injury that includes analysis, data acquisition, identification of problem injuries in high risk groups, option analysis and implementing and evaluating countermeasures.

injury prevention - efforts to forestall or prevent events that might result in injuries.

injury rate - a statistical measure describing the number of injuries expected to occur in a defined number of people (usually 100,000) within a defined period (usually 1 year). Used as an expression of the relative risk of different injuries or groups.

lead agency - an organization that serves as the focal point for program development on the local, regional or State level.

major trauma - that subset of injuries that encompasses the patient with or at risk for the most severe or critical types of injury and therefore requires a systems approach in order to save life and limb.

mechanism of injury - the source of forces that produce mechanical deformations and physiologic responses that cause an anatomic lesion or functional change in humans.

medical control - physician direction over pre-hospital activities to ensure efficient and proficient trauma triage, transportation, and care, as well as ongoing quality management morbidity the relative incidence of disease.

MERGe - The Major Emergency Response Group (MERGe) is a system of preparation, response, and recovery for major emergency medical events affecting licensed ambulance services for disaster management within Kansas.

mortality - the proportion of deaths to population.

National Trauma Data Bank (NTDB) – the largest aggregation of trauma registry data ever assembled. It contains over one million records from 405 U.S. trauma centers.

off-line medical direction - the establishment and monitoring of all medical components of an MS system, including protocols, standing orders, education programs, and the quality and delivery of online control.

on-line medical direction - immediate medical direction to pre-hospital personnel in remote locations (also know as direct medical control) provided by a physician or an authorized communications resource person under the direction of a physician.

overtriage - directing patients to trauma centers when they do not need such specialized care. Overtriage occurs because of incorrect identification of patients as having severe injuries when retrospective analysis indicates minor injuries.

Pre-hospital Trauma Life Support (PHTLS) - a verification course for pre-hospital care providers that teaches concepts of basic and advanced trauma life support. It is developed and sponsored by the National Association of Emergency Medical Technicians in cooperation with the American College of Surgeons Committee on Trauma.

protocols - standards for EMS practice in a variety of situations within the EMS system.

quality improvement - a method of evaluating and improving processes of patient care which emphasizes a multidisciplinary approach to problem solving, and focuses not on individuals, but systems of patient care, which might be the cause of variations.

quality management - a broad term, which encompasses both quality assurance and quality improvement, describing a program of evaluating the quality of care using a variety of methodologies and techniques.

regionalization - the identification of available resources within a given geographic area, and coordination of services to meet the needs of a specific group of patients.

rehabilitation - services that seek to return a trauma patent to the fullest physical, psychological, social, vocational, and educational level of functioning of which he or she is capable, consistent with physiological or anatomical impairments and environmental limitations.

response time - the time lapse between when an emergency response unit is dispatched and arrives at the scene of the emergency.

risk factor - a characteristic that has been statistically demonstrated to be associated with (although not necessarily the direct cause of) a particular injury. Risk factors can be used for targeting preventative efforts at groups who may be particularly in danger of injury.

rural - those areas not designated as metropolitan statistical areas (MSAs).

service area (catchment area) - that geographic area defined by the local EMS agency in it's trauma care system plan as the area served by a designated trauma center.

specialty care facility - an acute care facility that provides specialized services and specially trained personnel to care for a specific portion of the injured population, such as pediatric, burn injury, or spinal cord injury patients.

surveillance - the ongoing and systematic collection, analysis, and interpretation of health data in the process of describing and monitoring a health event.

trauma - a term derived from the Greek for "wound"; it refers to any bodily injury (see injury).

trauma care system - an organized approach to treating patients with acute injuries; it provides dedicated (available 24 hours a day) personnel, facilities, and equipment for effective and coordinated trauma care in an appropriate geographical region.

trauma center - a specialized hospital facility distinguished by the immediate availability of specialized surgeons, physician specialists, anesthesiologists, nurses, and resuscitation and life support equipment on a 24-hour basis to care for severely injured patients or those at risk for severe injury.

Trauma Nursing Core Course (TNCC) - a verification course providing core-level trauma knowledge and psychomotor skills associated with the delivery of professional nursing care to trauma patient. Developed and sponsored by the Emergency Nurses Association.

trauma registry - a collection of data on patients who receive hospital care for certain types of injuries. Such data are primarily designed to ensure quality trauma care and outcomes in individual institutions and trauma systems, but have the secondary purpose of providing useful data for the surveillance of injury morbidity and mortality.

trauma team - the multidisciplinary group of professionals who have been designated to collectively render care for trauma patients at a designated trauma center.

triage - the process of sorting injured patients on the basis of the actual or perceived degree of injury and assigning them to the most effective and efficient regional care resources, in order to insure optimal care and the best chance of survival.

triage criteria - measures or methods of assessing the severity of a person's injuries that are used for patient evaluation, especially in the pre-hospital setting, and that use anatomic and physiologic considerations-and mechanism of injury.